

22 JUN 2005 Rec'd P

PCT/EP 03/13500

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C22B1/10 C22B5/14 F27B15/10

B01J8/18

B01J8/44

F27B15/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 C22B B01J F27B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.				
Х	US 3 578 798 A (LAPPLE WALTER C ET AL) 18 May 1971 (1971-05-18) column 1, line 65 -column 2, line 75;	19-26				
A	figure 1 column 4, line 26 - line 28 column 4, line 40 - line 44; figure 3	1-4				
X	US 2 607 666 A (MARTIN HOMER Z) 19 August 1952 (1952-08-19) figure 1	19-21				
Υ	US 4 044 094 A (BARNER HERBERT E ET AL) 23 August 1977 (1977-08-23) figures 3-5,7	27,28				
Υ	US 4 789 580 A (HIRSCH MARTIN ET AL) 6 December 1988 (1988-12-06) figure 1	27,28				

Further documents are listed in the continuation of box C.	X Patent family members are listed in annex.	
Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date ctalmed	 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family 	
Date of the actual completion of the international search	Date of mailing of the international search report	
16 April 2004	29/04/2004	
Name and mailing address of the ISA	Authorized officer	
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Bombeke, M	



Intermonal Application No
PCT/EP 03/13500

	on) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 32 35 559 A (METALLGESELLSCHAFT AG) 24 May 1984 (1984-05-24) abstract; figure 1	1-4
-		



Int Honal Application No
PCT/EP 03/13500

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 3578798	Α	18-05-1971	NONE		
US 2607666	Α	19-08-1952	US	2582710 A	15-01-1952
US 4044094	A	23-08-1977	AU	503630 B2	13-09-1979
			AU	8421675 A	24-02-1977
			CA	1050281 A1	13-03-1979
			DE	2537940 A1	11-03-1976
			FR	2283235 A1	26-03-1976
			GB	1510026 A	10-05-1978
			JP	- 51050203 A	01-05-1976
			ZA	7505336 A	28-07-1976
US 4789580	Α	06-12-1988	DE	3540541 A1	21-05-1987
			AU	588647 B2	21-09-1989
			AU	6513486 A	21-05-1987
			BR	8605633 A	18-08-1987
			CA	1266368 A1	06-03-1990
			DE	3662700 D1	11-05-1989
			ΕP	0222452 A1	20-05-1987
			GR	88300159 T1	08-03-1989
			GR	3000079 T3	31-10-1990
			IN	166635 A1	30-06-1990
			NO	864490 A ,B,	18-05-1987
			NZ	217937 A	27-07-1989
DE 3235559	Α	24-05-1984	DE	3235559 A1	24-05-1984